

**Report on the compatibility of Department of Defense (DoD)
activities with oil and gas resource development on the
Outer Continental Shelf (OCS)**

15 February 2010



Prepared by:

**Office of the Deputy Under Secretary of Defense for Readiness
Office of the Deputy Under Secretary of Defense for Installations and Environment
Office of the Director, Operational Test and Evaluation**

Report on the compatibility of Department of Defense (DoD) activities with oil and gas resource development on the Outer Continental Shelf (OCS)

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1. Background

On 18 September 2009, the DoD Principals for the OCS sent an overview letter and interim response describing the Department's OCS study to the Director of the Minerals Management Service. The information contained in this final report and in the associated geospatial data files provides the DoD's detailed response to the call for comments on the "Draft Proposed Outer Continental Shelf (OCS) 2010-2015 Oil and Gas Leasing Program."

This study identifies locations within six MMS Planning Areas where there are potential conflicts between testing, training, and other DoD activities, with offshore oil and gas development. Most of these potential conflicts are attributable to the frequent use of live munitions in support of fleet gunnery exercises; air-to-surface bombing; and anti-submarine warfare and test operations.

Note: the results of this DoD study are for oil and gas activity and infrastructure only and do not necessarily apply to offshore renewable energy activities or infrastructure.

2. Methods and Results: Analysis of DoD activities and compatibility with oil and gas resource development on the OCS

The Department used a comprehensive approach for its analysis of activities on the OCS. Four categories of potential compatibility were developed as part of this analysis:

1. Unrestricted: No DoD-requested restrictions on oil and gas infrastructure or related activities. However, DoD requests early and prior coordination if oil and gas activity is contemplated in these areas.
2. Site Specific Stipulations: Areas where, with specific stipulations, above-surface oil and gas infrastructure may be feasible. Examples of currently used stipulations include: "hold harmless" provisions; electromagnetic emission controls; site evacuation protocols; location pre-coordination; density limitations; and planned periods of lease operations. Appendix 1 provides further details on examples of OCS lease stipulations.
3. No Permanent Oil & Gas Surface Structures: Areas where subsurface oil and gas infrastructure may be compatible; e.g., where scheduled temporary surface activities from a drillship or moveable platform are pre-coordinated with DoD and subsurface and seabed infrastructure remains in place.
4. No Oil and Gas Activity: Areas where any oil and gas development infrastructure and activity would jeopardize DoD operations.

DoD assessed each OCS Operating Area/Warning Area using these four categories and the assessment and entered results into a geographic information system (GIS). The geospatial data integrates Operating Areas (OPAREAs) and Warning Areas, along with DoD offshore activities

with the MMS Planning Areas and the 2010-2015 DPP Program Areas. The GIS shapefiles with this data will be transmitted to Minerals Management Service (MMS).

The DoD analysis of its offshore activities using the four categories above and aggregated for the 26 MMS OCS Planning Areas results in the following:

- | | |
|---|-----|
| 1. Unrestricted: | 57% |
| 2. Site Specific Stipulations ¹ : | 40% |
| 3. No Permanent Oil & Gas Surface Structures: | 2% |
| 4. No Oil & Gas Activity: | 1% |

This report focuses on the six MMS Planning Areas where DoD has determined that its offshore activities are not be compatible with oil and gas activities and infrastructure. Information on areas where DoD would request Site-Specific Stipulations or No Permanent Oil and Gas Surface Structures is contained in the geospatial data and depicted on the maps in Appendix 2. The DoD analysis and this report do not address offshore renewable energy.

¹Approximately two thirds of the extent of the DoD Site Specific Stipulations is in the Alaska Planning Areas along the Aleutian Islands. These stipulation areas are requested by the Missile Defense Agency and are associated with potential launch-related hazards to personnel and property in those offshore areas.

3. Results by MMS OCS Planning Areas and DoD OPAREAs and Warning Areas: No Oil and Gas Activity

The six MMS Planning Areas with areas determined to be No Oil or Gas Activity are listed below with the coordinates of the relevant DoD OPAREA or Warning Area. The information summarized in the charts are based on current use of the OCS by DoD and does not reflect future or unforeseen requirements, such as new capabilities, surge events, contingency use, etc. As such, this report is a snapshot of DoD activities on the OCS at the time of the study. An explanation of the abbreviations and acronyms used for Activity Type and Justification can be found in Appendix 4.

North Atlantic Planning Area

Boston OPAREAs

Category: No Oil or Gas Activity

Activity Type: Fleet operations and Test &Evaluation events.

Justification: Preservation of Test &Evaluation and combat readiness capabilities.

Area

Coordinates

Narragansett OPAREAs

Category: No Oil or Gas Activity

Activity Type: Fleet operations and Test &Evaluation events.

Justification: Preservation of Test &Evaluation and combat readiness capabilities.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Underwater cable, torpedo testing, hydrophone testing and development activities.

Justification: Preservation of a sterile test environment for live fire test events.

Area

Coordinates

Mid-Atlantic Planning Area

Northern VACAPES OPAREAs

Category: No Oil or Gas Activity

Activity Type: Live Fire Tests. Supersonic flight tests, aerial target launch, OT, DT, and CSSQT.

Justification: Preservation of a sterile test environment for live fire test events.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Testing and Weapons Employment/Assurance.

Justification: Preservation of undersea and surface operations.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Aerial, surface, subsurface testing and training. OT, DT, FOT&E and CSSQT. In-water active acoustic decoy training (NIXIE). Airborne use of defensive expendables (Chaff/Flares). Homing torpedo testing/training. Surface-to-air MISSILEX. Aerial target hazard pattern.

Justification: Preservation of combat readiness training flexibility, freedom of maneuver, freedom of tactical action. Preservation of a sterile test environment ensures accuracy and flexibility of test & evaluation events.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Live ordnance release and impact. Fleet gunnery range, towed target operations, air-to-surface MISSILEX, air-to-surface BOMBEX, live fire/ordnance operations, chaff/flare exercises, laser targeting operations. NAVAIR, NAVSEA sensor evaluations (live fire).

Justification: Maintain safety margins for live fire events. Preservation of a sterile environment to conduct live fire training and testing events. Numerous UXO on the ocean floor.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Aircraft carrier (CVN) operations and training. Aircrew landing qualifications (day and night). Extensive aircraft launch and recovery operations. CVN transit/course dependent on meteorological conditions, sea state, wind direction, operational schedule and distance from divert airfields.

Justification: Preservation of uninhibited/unobstructed sea/air space to support restricted in maneuverability constraints inherent during carrier flight operations and initial/refresher carrier qualifications. Surface development & structures inhibit ability of aircraft carrier to navigate freely, safely launch/recover aircraft & conduct unencumbered, dynamic flight operations. Coordinated scheduling required to effect joint military/commercial use.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Mine counter measure operations. Dynamic towed sonar systems.

Justification: MCM operations employ systems/hardware dragged through simulated minefield from helicopters and offensive weapons employment.

Area

Coordinates

Southern VACAPES OPAREAs

Category: No Oil or Gas Activity

Activity Type: DT, OT, and CSSQT.

Justification: On-going live ordnance release/impact, tactical training, drone launch/recovery hazard area, mine countermeasure and EOD operations. Preserve sterile, strategic Test & Evaluation capability and flexibility.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Mine counter measure operations. Dynamic towed sonar systems.

Justification: MCM operations employ systems/hardware dragged through simulated minefield from helicopters & offensive weapons employment.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Surface-to-air MISSILEX, drone transit operations, surface-to-surface gunnery live fire/ordnance operations.

Justification: Preservation of combat readiness training flexibility.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Fleet operations and Test & Evaluation events.

Justification: Preservation of Test & Evaluation and combat readiness capabilities.

Area

Coordinates

Cherry Point OPAREAs

Category: No Oil or Gas Activity

Activity Type: Live fire training. Air-to-surface gunnery, air-to-surface MISSILEX, live fire/ordnance operations. Laser operations.

Justification: Preservation of combat readiness training flexibility and safety margins.

Area

Coordinates

South Atlantic Planning Area

Charleston OPAREAs

Category: No Oil or Gas Activity

Activity Type: Strike Group transit & training. Small boat, high speed maneuver & tactics. Air-to-surface/surface-to -surface gunnery, FAC/FIAC operations, LSE support.

Justification: Preservation of live fire training range. Numerous UXO on ocean floor.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: MCM MINEX, Live underwater ordnance detonation operations. Live fire surface-to-surface gunnery.

Justification: Mine neutralization operations. Numerous UXO on ocean floor.

Area

Coordinates

Jacksonville OPAREAs

Category: No Oil or Gas Activity

Activity Type: ASW instrumented (seabed) training, torpedo firing exercises.

Justification: Permanently installed instrumented tracking devices/hydrophone array located on seabed. Hi-density/dynamic submarine, surface ship & helicopter ASW/USW operations conducted continuously. Wide range of ASW offensive & defensive ordnance/countermeasures employed both above & below surface throughout the range.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Live surface-to-surface gunnery. Naval surface fires. Numerous UXO on sea floor.

Justification: Preservation of live fire training range.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: HSMWL (helo) ASW operations, DESI exercises.

Justification: Preservation of undersea and surface operations.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Live air-to-surface ordnance operations. Bomb drop box. Air-to-surface BOMBEX, live fire/ordnance operations.

Justification: Preservation of live fire training range. Numerous UXO on sea floor.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Shipboard Electronic Systems Evaluation Facility operations.

Justification: Preservation capability of testing and evaluation facility

Area

Coordinates

Straits of Florida Planning Area

South of Jacksonville OPAREAs

Category: No Oil or Gas Activity

Activity Type: Fleet underwater operations and Test &Evaluation events.

Justification: Preservation of Test &Evaluation and combat readiness capabilities.

Area

Coordinates

Key West OPAREAs

Category: No Oil or Gas Activity

Activity Type: Fleet operations and Test &Evaluation events.

Justification: Preservation of Test &Evaluation and combat readiness capabilities.

Area

Coordinates

Eastern Gulf of Mexico Planning Area

North of Key West OPAREA

Category: No Oil or Gas Activity

Activity Type: Live fire MISSILEX air-to-air and air-to-ground events.

Justification: Preservation of combat readiness training flexibility and safety margins.

Area

Coordinates

Panama City OPAREA

Category: No Oil or Gas Activity

Activity Type: Mine warfare test & training. Underwater detonation. Helicopters transit at 1000 ft altitude and operate at altitudes of 200 ft or less. Towed bodies can be anywhere in the water column from surface to near the bottom in 100 to 1000 ft of water. The remote mine hunting system will use acoustic sensors, some of which are housed in a variable depth sensor (VDS) body for detection, classification, and Mine-Like Object (MLO) localization. Electro optic sensors will also be used for identification of MLOs. This is a semi-submersible operating near the surface water depths less than 2000 ft. Towed bodies can be anywhere in the water column from surface to near the bottom.

Justification: The seabed of W-151 closely resembles the actual operational areas in the Persian Gulf - no other range has similar physical properties and environmental conditions that serve as a Persian Gulf surrogate for systems testing/development. Airborne Laser Mine Detection System (ALMDS) may be an ocular hazard to personnel. Preservation of W-151 from high density oil platforms and frequent oil development activity provides necessary safety margins during high risk Test & Evaluation evolutions.

Area

Coordinates

Southern California Planning Area

Southern California OPAREAs (SOCAL)

Category: No Oil or Gas Activity

Activity Type: Live fire fleet gunnery range.

Justification: Preservation of combat readiness training flexibility. Preservation of a sterile environment for live fire. Secure range minimizes non-military personnel hazards and equipment damage. Active laser operations.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Instrumented ASW training, torpedo firing exercise.

Justification: Protect seabed instrumentation of the underwater range. Preservation of a sterile environment for live fire.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Seeded mine warfare training range.

Justification: Preservation of instrumented underwater range, and counter-mine combat readiness training.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Seeded mine field warfare training range.

Justification: Preservation of instrumented underwater range readiness training, and counter-mine combat readiness training.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: ESG operations, GUNEX surface-to-surface.

Justification: Preservation of combat readiness training flexibility and safety margins in the only West Coast amphibious operations area for the Navy and Marine Corps.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: ESG operations, GUNEX surface-to-surface.

Justification: Preservation of combat readiness training flexibility and safety margins in the only West Coast amphibious operations area for the Navy and Marine Corps.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Instrumented underwater range used to evaluate effectiveness of surface ship countermeasure systems.

Justification: Preservation of underwater range sensor and measurement systems.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Strike Group operating and transit space. Air, surface, and subsurface, ESG and CSG, basic and advanced Fleet readiness training areas.

Justification: Preservation of combat readiness training flexibility, freedom of maneuver and tactical action. Maintain safety margins.

Area

Coordinates

Category: No Oil or Gas Activity

Activity Type: Live fire fleet gunnery range.

Justification: Preservation of combat readiness training flexibility, freedom of maneuver and tactical action. Maintain safety margins for live fire events. Active laser operations.

Area

Coordinates

Appendix 1

DoD letter to MMS, 18 September 2009



OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

PERSONNEL AND
READINESS

SEP 18 2009

S. Elizabeth Birnbaum
Director
Minerals Management Service
U.S. Department of the Interior
Washington, D.C. 20240

Dear Ms. Birnbaum:

The Department of Defense (DoD) has reviewed the Minerals Management Service's (MMS) Draft Proposed Outer Continental Shelf (OCS) 2010-2015 Oil and Gas Leasing Program. This letter provides an overview of the process that DoD used to prepare our response and a general comment on the Draft Proposed Program. The Department will submit separately a detailed review of all areas identified in the draft proposed program. Our detailed analysis addresses the compatibility of our operations with those associated with oil and gas activities on the OCS.

The Department has taken a comprehensive approach to the development of our response to the draft proposed program. In collaboration with your office, we developed four categories of potential compatibility between our operations in the OCS Planning Areas and oil and gas activities. The categories are as follows:

1. Unrestricted: No DoD-requested restrictions on oil and gas infrastructure or related activities. We do, however, request prior coordination if oil and gas activity is contemplated in these areas.
2. Site Specific Stipulations: Areas where, with specific stipulations, above-surface oil and gas infrastructure may be feasible. Examples of currently used stipulations include: "hold harmless" provisions; electromagnetic emission controls; site evacuation protocols; location pre-coordination; density limitations; and planned periods of lease operations. This list is not intended to be exhaustive, but rather representative.
3. No Permanent Oil & Gas Surface Structures: Areas where subsurface oil and gas infrastructure may be compatible; e.g., where scheduled temporary surface activities from a drillship or moveable platform are pre-coordinated with DoD and subsurface and seabed infrastructure remains in place.
4. Incompatible: Areas where any oil and gas development infrastructure and activity would be incompatible with DoD operations.

Using these four categories we assessed each of our Operating Areas/Warning Areas in the OCS and then developed a geospatial data set that correlates DoD operations compatibility with the draft proposed program areas.

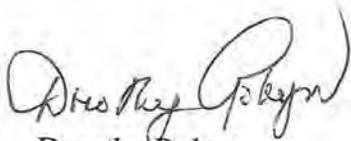
Our initial analysis has identified locations within five Planning Areas where there are potential incompatibilities between our operations and oil and gas activities. Most of these incompatible areas are attributable to the frequent use of live munitions in support of fleet gunnery exercises; air-to-surface bombing; and anti-submarine warfare and test operations.

Part II of the Draft Proposed Program discusses alternative energy development on the OCS, and we recognize that development of these resources will begin within the next five years. The Draft Proposed Program, however, contains insufficient information for us to adequately assess the compatibility of such alternative energy initiatives with our operations on the OCS. We would be pleased to discuss offshore renewable energy development with you at your earliest opportunity.

Finally, in the analysis process, we have compiled a large amount of data. This includes an extensive report, a series of OCS charts, and a comprehensive geo-spatial data set. Given the volume and complexity of this data we request a face-to-face meeting to formally present the results of our analysis. Our points-of-contact for this issue are:

Mr. Frank DiGiovanni, 703-693-4973, frank.digiovanni@osd.mil
Ms. Maureen Sullivan, 703-695-7957, maureen.sullivan@osd.mil
Mr. Bob Butterworth, 703-697-0637, robert.butterworth@osd.mil

We appreciate the opportunity to comment on the draft proposed plan for oil and gas leasing and look forward to working collaboratively with you on OCS matters.



Dorothy Robyn
Deputy Under Secretary of Defense
(Installations and Environment)



Samuel D. Kleinman
Deputy Under Secretary of Defense
(Readiness)



David W. Duma
Principal Deputy Director
Operational Test and Evaluation

Appendix 2

DoD-related Outer Continental Shelf Lease Stipulations

Stipulations are pre-conditions that the DoD requests be included in an OCS lease sale contract and that the lessee would agree to prior to completion of the lease sale. The stipulations below are compiled from existing stipulations for lease sales in the Eastern Gulf of Mexico (Eglin AFB) and the Southern California Planning Areas (Vandenberg AFB) and are representative of the types of stipulations the DoD may seek. These stipulations are intended for use with any specific lease sale site in any MMS offshore planning area or on other parts of the OCS. Additional stipulations may be required for specific lease sale sites.

Stipulation No. 1 – Hold and Save Harmless

Whether compensation for such damage or injury might be due under a theory of strict or absolute liability or otherwise, the lessee assumes all risks of damage or injury to persons or property, which occur in, on, or above the OCS, to any persons or to any property of any person or persons in connection with any activities being performed by the lessee in, on, or above the OCS, if such injury or damage to such person or property occurs by reason of the activities of any agency of the United States Government, its contractors, or subcontractors, or any of its officers, agents or employees, being conducted as a part of, or in connection with, the programs or activities of the command headquarters listed at below (hereinafter “the appropriate command headquarters”).

Notwithstanding any limitation of the lessee’s liability in Section 14 of the lease, the lessee assumes this risk whether such injury or damage is caused in whole or in part by any act or omission, regardless of negligence or fault, of the United States, its contractors or subcontractors, or any of its officers, agents, or employees. The lessee further agrees to indemnify and save harmless the United States against all claims for loss, damage, or injury in connection with the programs or activities of the command headquarters, whether the same be caused in whole or in part by the negligence or fault of the United States, its contractors, or subcontractors, or any of its officers, agents, or employees and whether such claims might be sustained under a theory of strict or absolute liability or otherwise.

Stipulation No. 2 – Evacuation

(a) The lessee, recognizing that oil and gas resource exploration, exploitation, development, production, abandonment, and site cleanup operations on the leased area of submerged lands may occasionally interfere with military testing, training, and operations, hereby recognizes and agrees that the United States reserves and has the right to temporarily suspend operations and/or require evacuation on this lease in the interest of national security. Every effort will be made by the appropriate military agency to provide as much advance notice as possible of the need to suspend operations and/or evacuate. Advance notice of fourteen (14) days shall normally be given before requiring a suspension or evacuation, but in no event will the notice be less than

four (4) days. Temporary suspension of operations may include the evacuation of personnel, and appropriate sheltering of personnel not evacuated. Appropriate shelter shall mean the protection of all lessee personnel for the entire duration of any Department of Defense activity from flying or falling objects or substances and will be implemented by a written order from the MMS Regional Supervisor for Field Operations (RS-FO), after consultation with the appropriate command headquarters or other appropriate military agency, or higher authority. The appropriate command headquarters, military agency or higher authority shall provide information to allow the lessee to assess the degree of risk to, and provide sufficient protection for, lessee's personnel and property. Such suspensions or evacuations for national security reasons will not normally exceed seventy-two (72) hours; however, any such suspension may be extended by order of the RS-FO. During such periods, equipment may remain in place, but all production, if any, shall cease for the duration of the temporary suspension if so directed by the RS-FO. Upon cessation of any temporary suspension, the RS-FO will immediately notify the lessee such suspension has terminated and operations on the leased area can resume.

(b) The lessee shall inform the MMS of the persons/offices to be notified to implement the terms of this stipulation.

(c) The lessee is encouraged to establish and maintain early contact and coordination with the appropriate command headquarters, in order to avoid or minimize the effects of conflicts with potentially hazardous military operations.

(d) The lessee shall not be entitled to reimbursement for any costs or expenses associated with the suspension of operations or activities or the evacuation of property or personnel in fulfillment of the military mission in accordance with subsections (a) through (c) above.

(e) Notwithstanding subsection (d), the lessee reserves the right to seek reimbursement from appropriate parties for the suspension of operations or activities or the evacuation of property or personnel associated with conflicting commercial operations.

Stipulation No. 3 – Coordination

(a) The placement, location, and planned periods of operation of surface structures on this lease during the exploration stage are subject to approval by the MMS Regional Director (RD) after the review of an operator's exploration plan (EP). Prior to approval of the EP, the lessee shall consult with the appropriate command headquarters regarding the location, density, and the planned periods of operation of such structures, and to maximize exploration while minimizing conflicts with Department of Defense activities. When determined necessary by the appropriate command headquarters, the lessee will enter a formal Operating Agreement with such command headquarters, that delineates the specific requirements and operating parameters for the lessee's Final activities in accordance with the military stipulation clauses contained herein. If it is determined that the Final operations will result in interference with scheduled military missions in such a manner as to possibly jeopardize the national defense or to pose unacceptable risks to life and property, then the RD may approve the EP with conditions, disapprove it, or require modification in accordance with 30 CFR 250. The RD will notify the lessee in writing of the

conditions associated with plan approval, or the reason(s) for disapproval or required modifications. Moreover, if there is a serious threat of harm or damage to life or property, or if it is in the interest of national security or defense, pending or approved operations may be suspended in accordance with 30 CFR 250. Such a suspension will extend the term of a lease by an amount equal to the length of the suspension, except as provided in 30 CFR 250.169(b). The RD will attempt to minimize such suspensions within the confine of related military requirements. It is recognized that the issuance of a lease conveys the right to the lessee as provided in section 8(b)(4) of the Outer Continental Shelf Lands Act to engage in exploration, development, and production activities conditioned upon other statutory and regulatory requirements.

(b) The lessee is encouraged to establish and maintain early contact and coordination with the appropriate command headquarters, in order to avoid or minimize the effects of conflicts with potentially hazardous military operations.

(c) If national security interests are likely to be in continuing conflict with an existing operating agreement, the RD will direct the lessee to modify any existing operating agreement or to enter into a new operating agreement to implement measures to avoid or minimize the identified potential conflicts, subject to the terms and conditions and obligations of the legal requirements of the lease.

Stipulation No. 4 – Electromagnetic Emissions

The lessee agrees to control its own electromagnetic emissions and those of its agents, employees, invitees, independent contractors or subcontractors emanating from individual designated defense operating areas, warning areas, and water test areas in accordance with requirements specified by the commander of the command headquarters listed in the following table to the degree necessary to prevent damage to, or unacceptable interference with, Department of Defense flight testing, training, or operational activities, conducted within individual designated defense operating areas, warning areas, and water test areas. Prior to entry into the particular operating area, warning area, or water test area, the lessee, its agents, employees, invitees, independent contractors or subcontractors, must coordinate electromagnetic emissions with the appropriate command headquarters.

Appendix 3

GIS Shapefile Metadata

The GIS data file contains DoD OCS areas categorized as No Oil and Gas Activity, No Permanent Oil & Gas Surface Structures, and Site Specific Stipulations. Any area of the OCS contained in the data file and not assigned one of the three above categories is determined to be Unrestricted. DoD OCS areas consist of special use airspace (Warning Areas), ocean surface and air operating areas (OPAREAs), and other offshore training and testing ranges. Several sources were used to create the GIS file.

The Warning Areas were obtained from the National Geospatial Intelligence Agency's (NGA) Digital Aeronautical Flight Information File (DAFIF) on 10 February 2009. OPAREAs were plotted from coordinates published in two Navy instruction manuals: U.S. Atlantic Fleet Instruction Manual 3120.26E ATLANTIC FLEET OPERATING AREAS AND WARNING AREAS, March 1993; and Fleet Air/Area Control & Surveillance Facility, San Diego MANUAL OF EASTPAC AND MIDPAC FLEET OPERATING AREAS 3120.F, March 2008. Additional OCS training areas were plotted from coordinates or GIS files provided by the military Services.

Some inconsistencies were identified between coordinates or GIS files provided by a military Service and existing sources such as DAFIF from the National Geospatial Intelligence Agency. In these cases, the existing source (DAFIF or the Navy instruction manual) was used as the primary source. For example, the Navy provided a GIS file for the Point Mugu Sea Range. The Warning Area boundaries (W-532, W-537, and W-289) did not match the DAFIF boundaries. In this case, DAFIF was used as the source for Warning Area boundaries and the Navy GIS file was the source of the interior sub-areas. The existing sources, such as DAFIF, are authoritative and where there are inconsistencies GIS staff should rely on the authoritative sources and not on geospatial data from other sources.

Note: Coordinates and data files provided with this report should not be used for navigation.

Appendix 4

Acronyms & Abbreviations

ASW	Anti-Submarine Warfare
BOMBEX	Bombing Exercise
CPAAA	Camp Pendleton Amphibious Assault Area
CSG	Carrier Strike Group
CSSQT	Combat System Ship Qualifications Trials
DESI	Diesel Electric Submarine Initiative
DT	Developmental Test
DAFIF	Digital Aeronautical Flight Information File
EER	Extended Echo Ranging
EOD	Explosive Ordnance Disposal
ESG	Expeditionary Strike Group
FAC/FIAC	Fast Attack Craft/Fast Inshore Attack Craft
FLETA HOT	Fleet Training Area Hot
FOT&E	Follow-On Test & Evaluation
GOMEX	Gulf of Mexico
GUNEX	Gunnery Exercise
HSMWL	Helicopter Maritime Strike Wing Atlantic
IEER	Improved Extended Echo Ranging
LSE	Large Scale Exercise
MCM	Mine Countermeasures
MINEX	Mining Exercise
MIO	Maritime Interdiction Operations
MISSILEX	Missile Exercise
MiW	Mine Warfare
MSO	Maritime Support Operations
NAOPA	Northern Air Operating Area
NAVAIR	Naval Air Systems Command
NAVSEA	Naval Sea Systems Command
OPAREA	Operations Area
OT	Operational Test
SESEF	Shipboard Electronic Systems Evaluation Facility
SHOBA	Shore Bombardment Area
T&E	Test and Evaluation
ULT	Unit Level Training
UNDET	Underwater Detonation
USWTR	Undersea Warfare Training Range
UXO	Unexploded Ordnance
VACAPES	Virginia Capes
VBSS	Visit, Board, Search & Seizure

Appendix 5

DoD Points of Contact

Mr. Frank DiGiovanni
Deputy Director, Readiness & Training Policy & Programs
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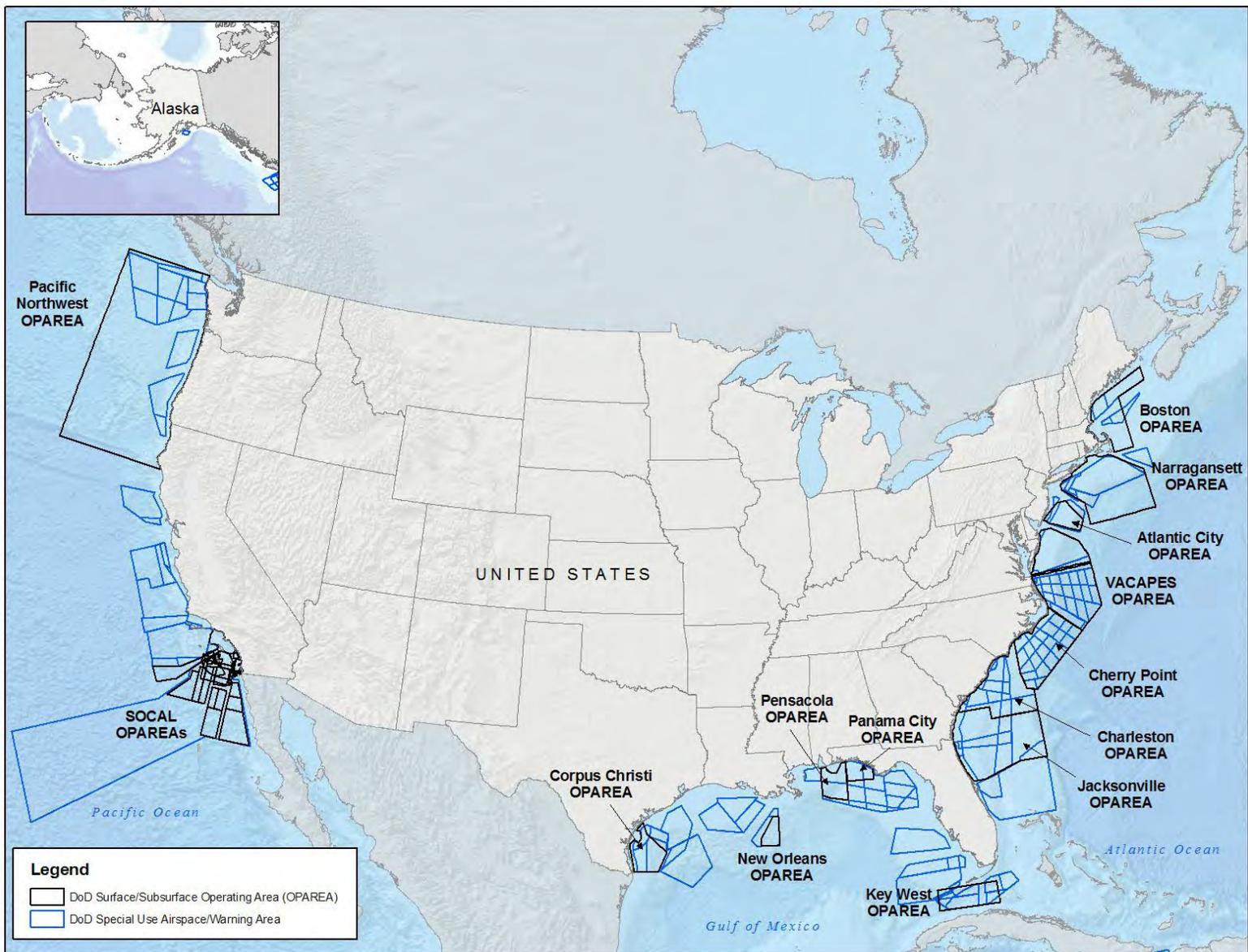
Mr. Robert Butterworth
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Alternate Point of Contact:

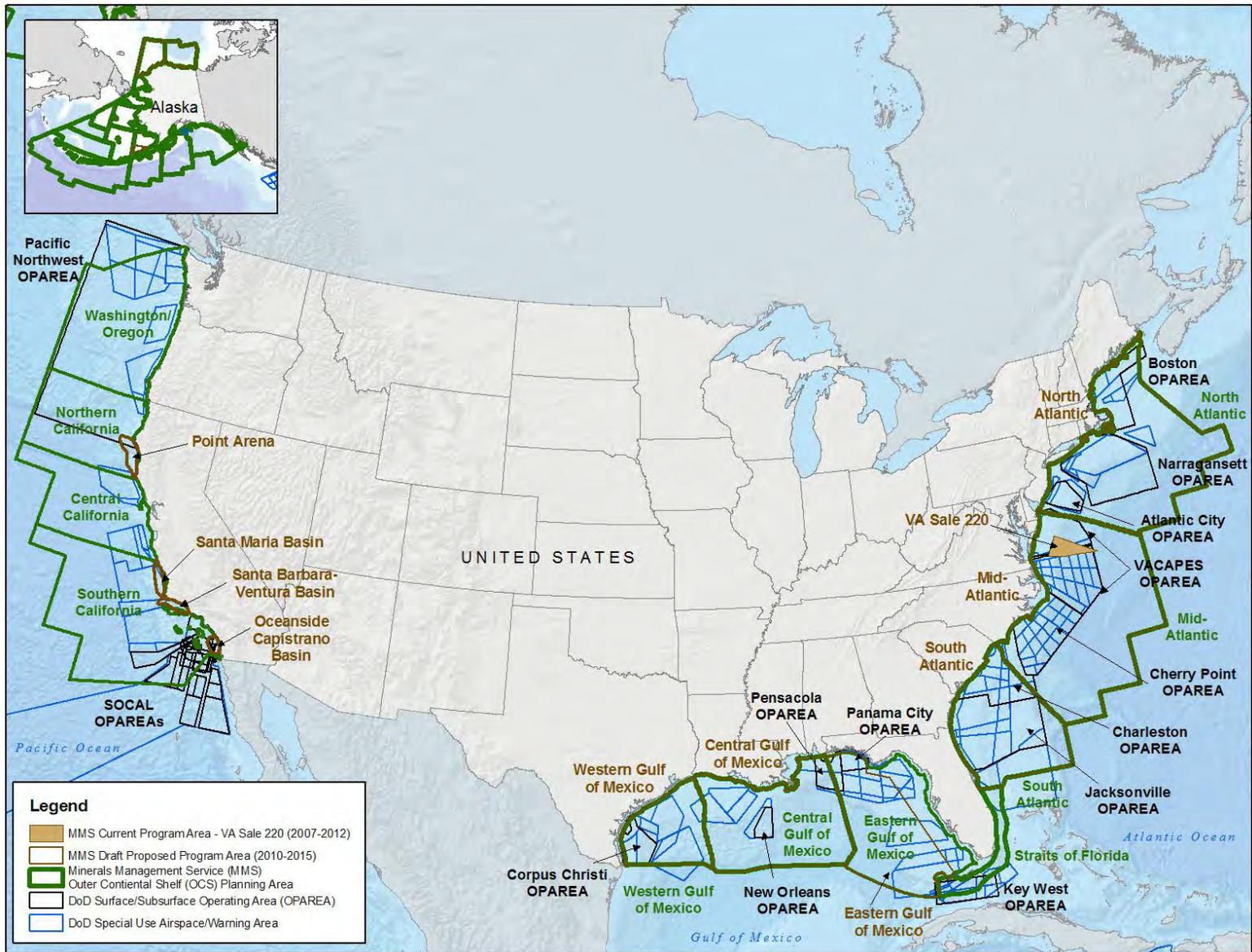
Mr. Fred Engle
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703-693-3478
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Appendix 6

MMS Planning Areas and DoD OPAREA & Warning Area Maps



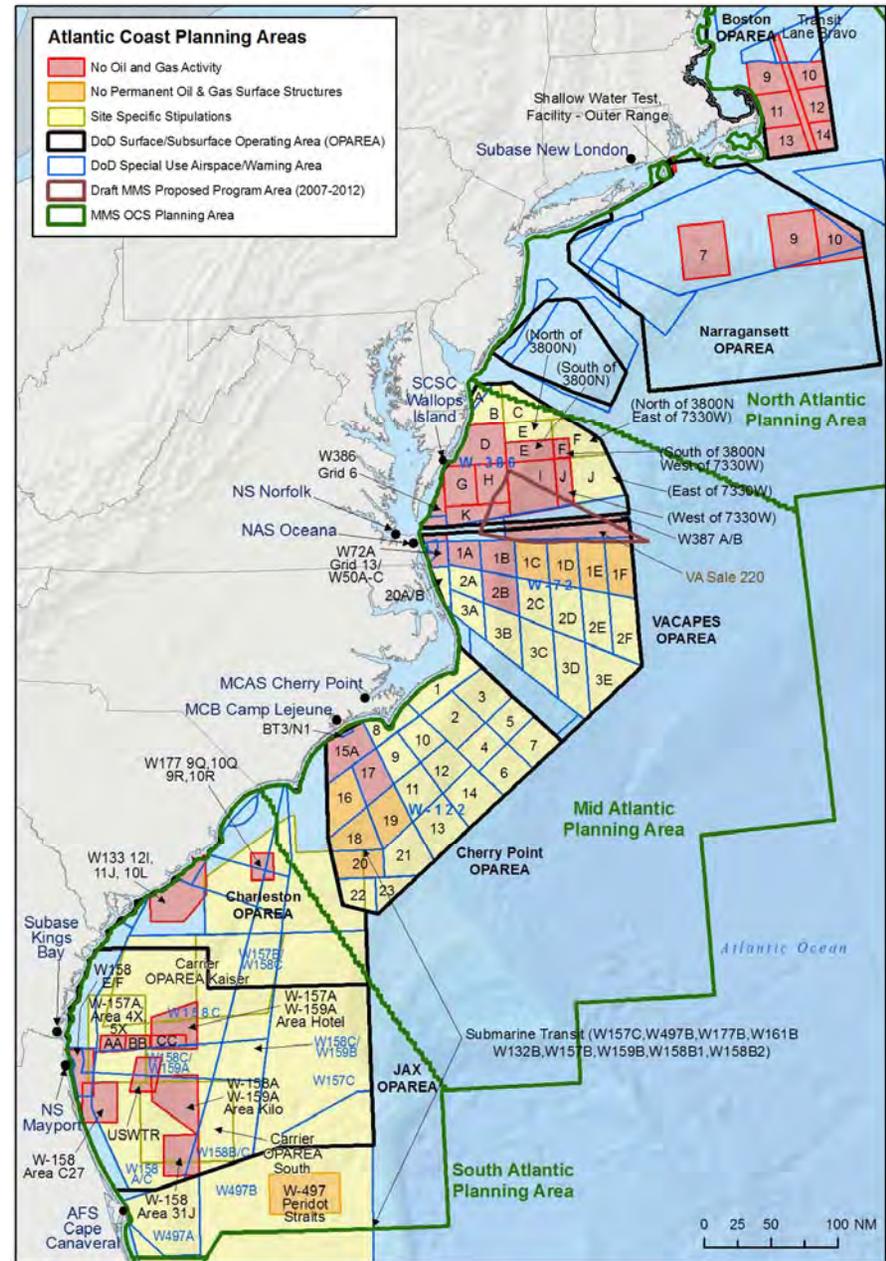
Overview: DoD OPAREAs & Warning Areas



Overview: MMS Planning Areas, MMS Program Areas and DoD OPAREAs & Warning Areas

Overview: Atlantic Coast

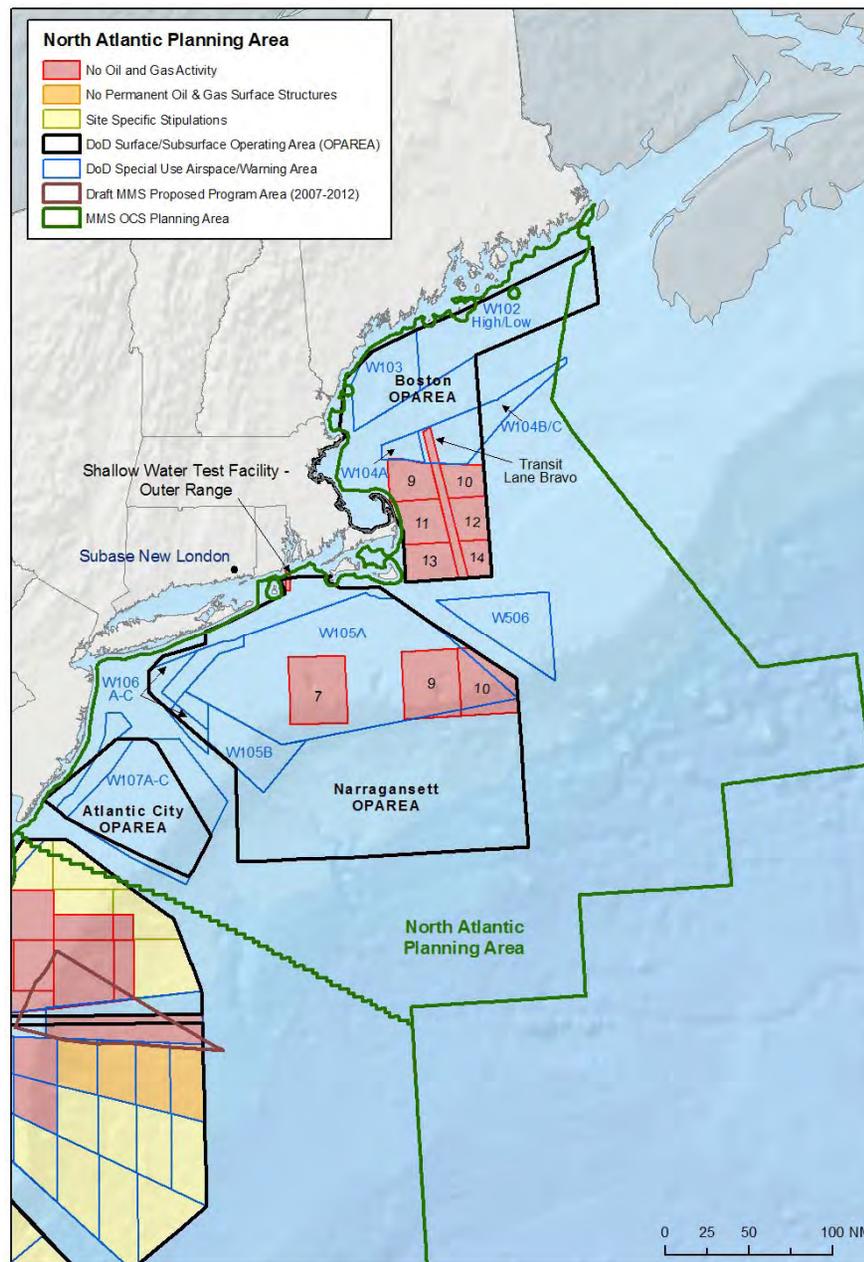
No Oil & Gas Activity	8%
No Permanent Oil & Gas Surface Structures	3%
Site Specific Stipulations	23%
Unrestricted	66%



North Atlantic Summary

North Atlantic Planning Area

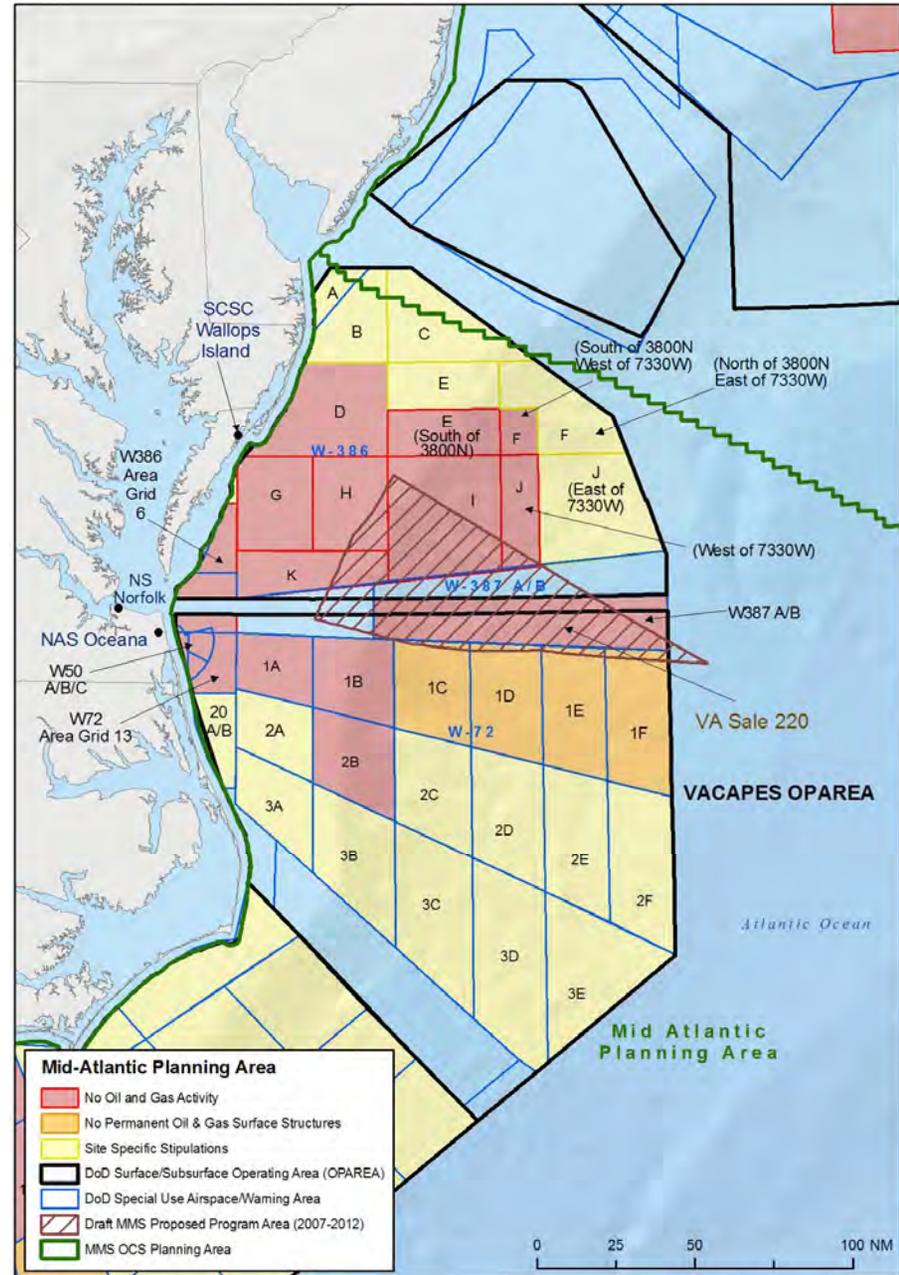
No Oil & Gas Activity	7%
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Mid-Atlantic Summary

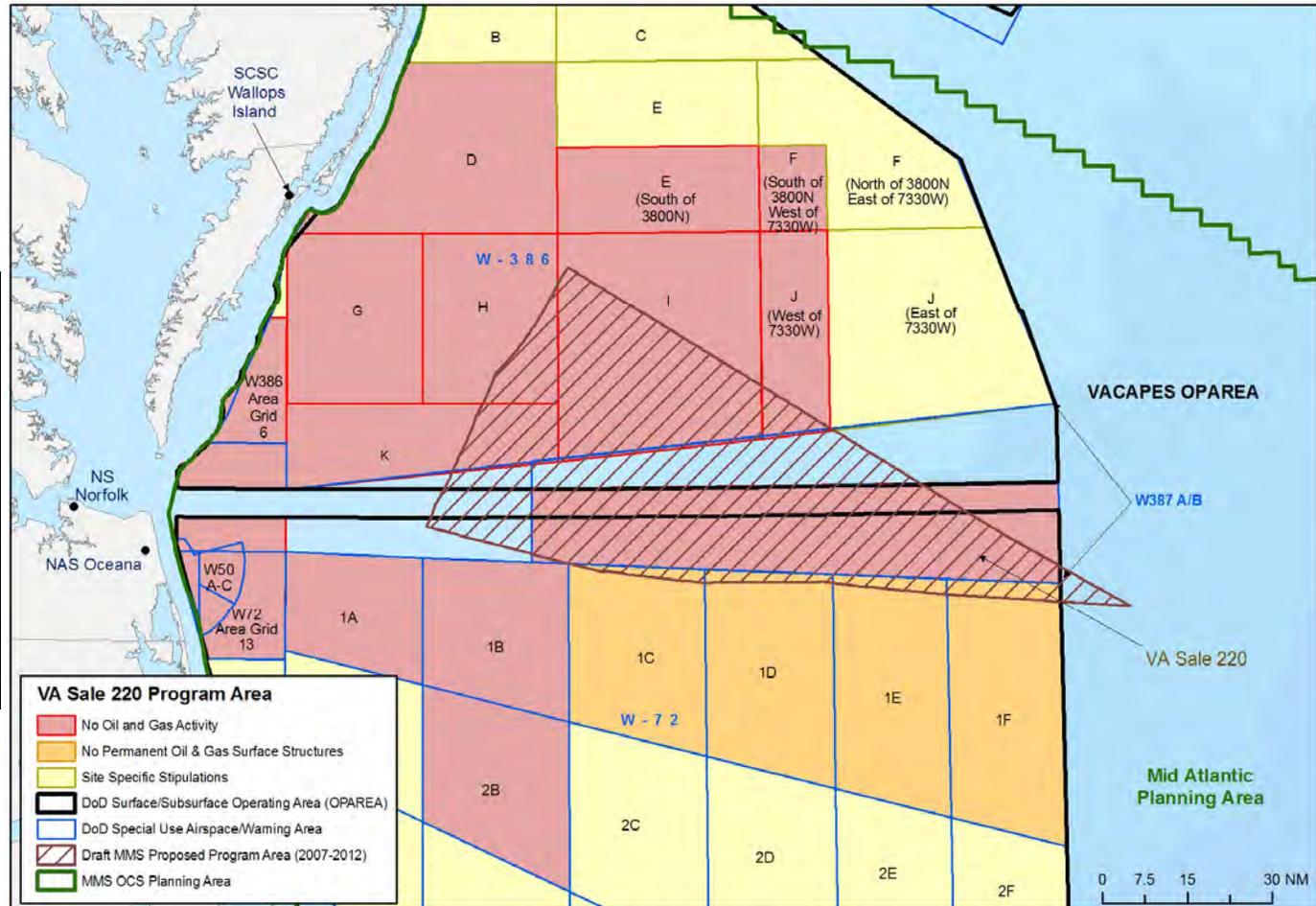
Mid Atlantic Planning/Program Areas

No Oil & Gas Activity	9%
No Permanent Oil & Gas Surface Structures	5%
Site Specific Stipulations	22%
Unrestricted	64%



Virginia Sale 220

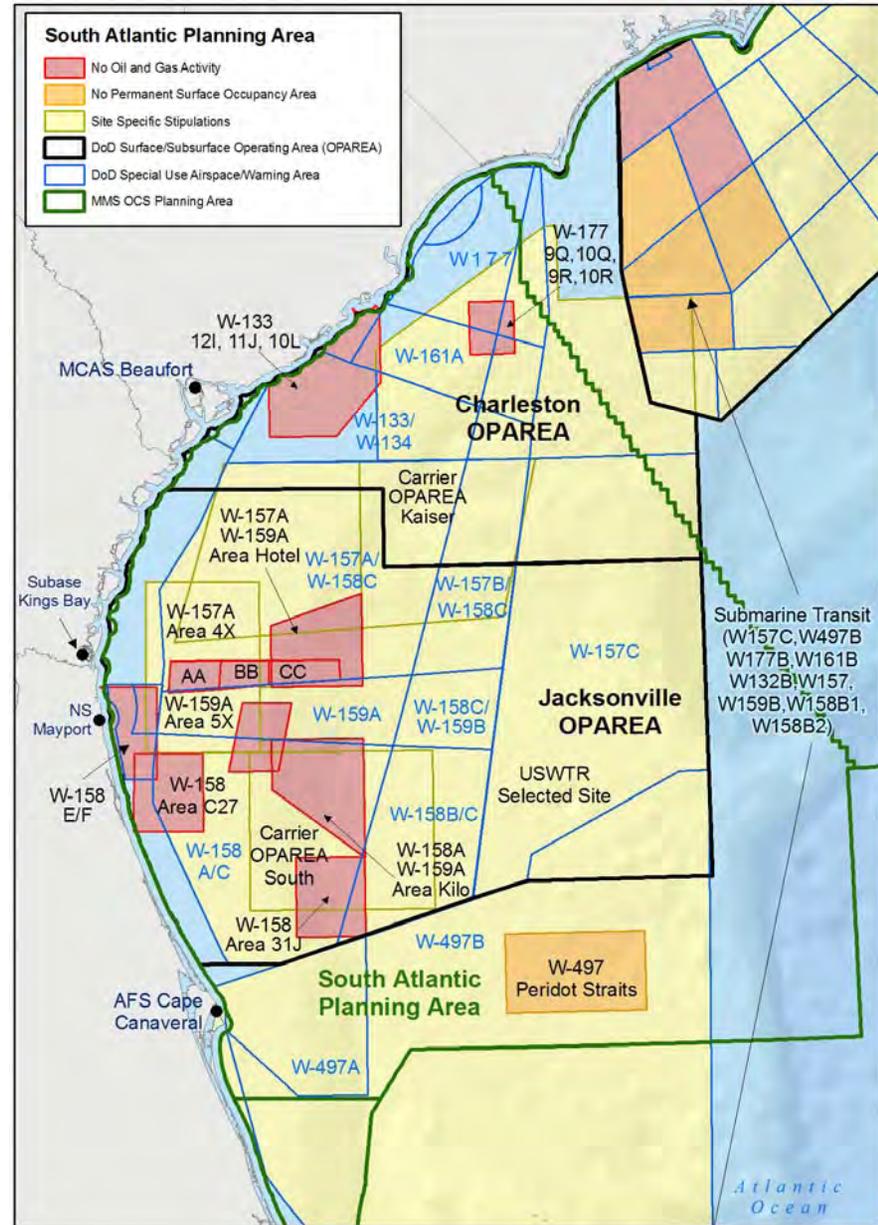
No Oil & Gas Activity	72%
No Permanent Oil & Gas Surface Structures	5%
Site Specific Stipulations	1%
Unrestricted	22%



South-Atlantic Summary

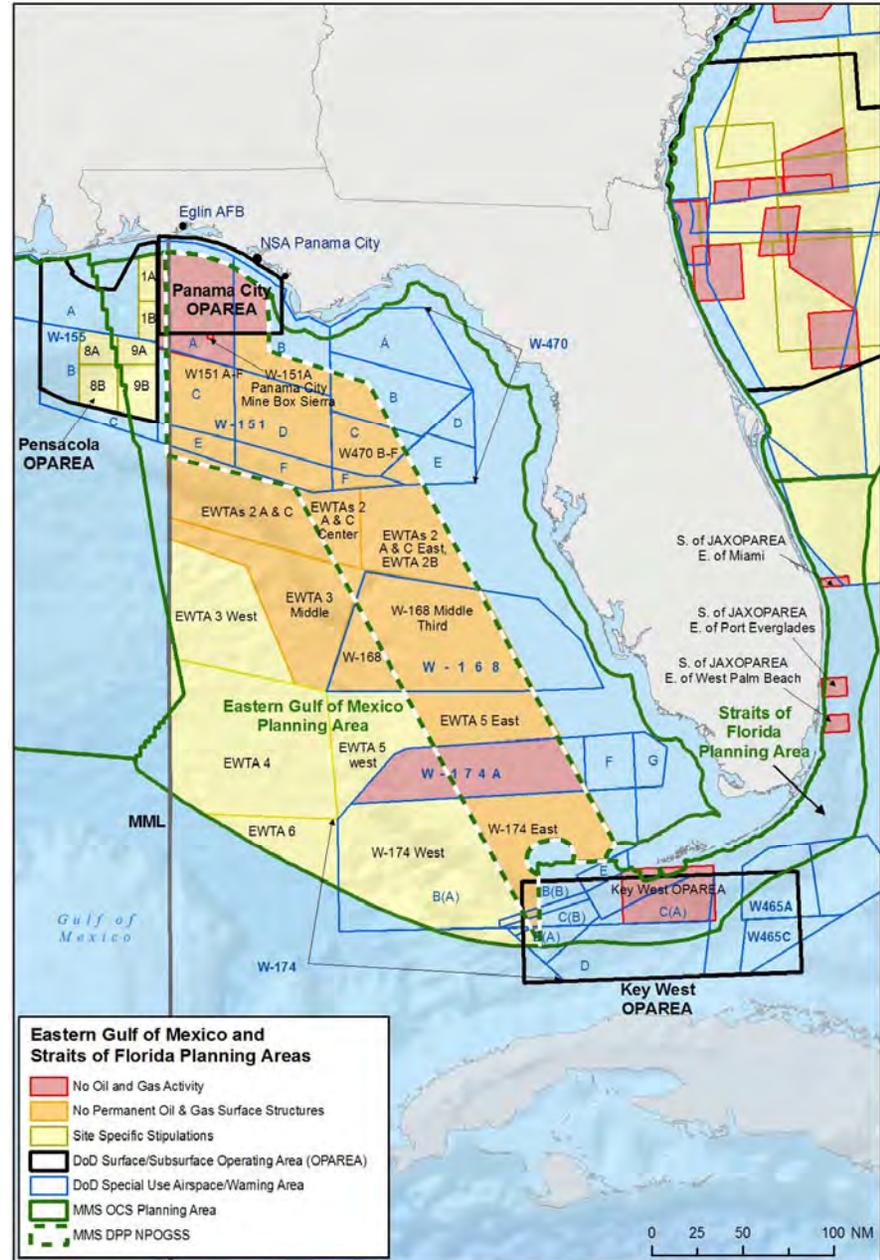
South Atlantic Planning/Program Areas

No Oil and Gas Activity	10%
No Permanent Oil & Gas Surface Structures	2%
Site Specific Stipulations	67%
Unrestricted	21%



Eastern Gulf of Mexico Program Area

No Oil and Gas Activity	11%
No Permanent Oil & Gas Surface Structures	49%
Site Specific Stipulations	36%
Unrestricted	4%



West Coast Overview

Washington/Oregon Planning Area

Site Specific Stipulations	20%
Unrestricted	80%

Northern California Planning Area

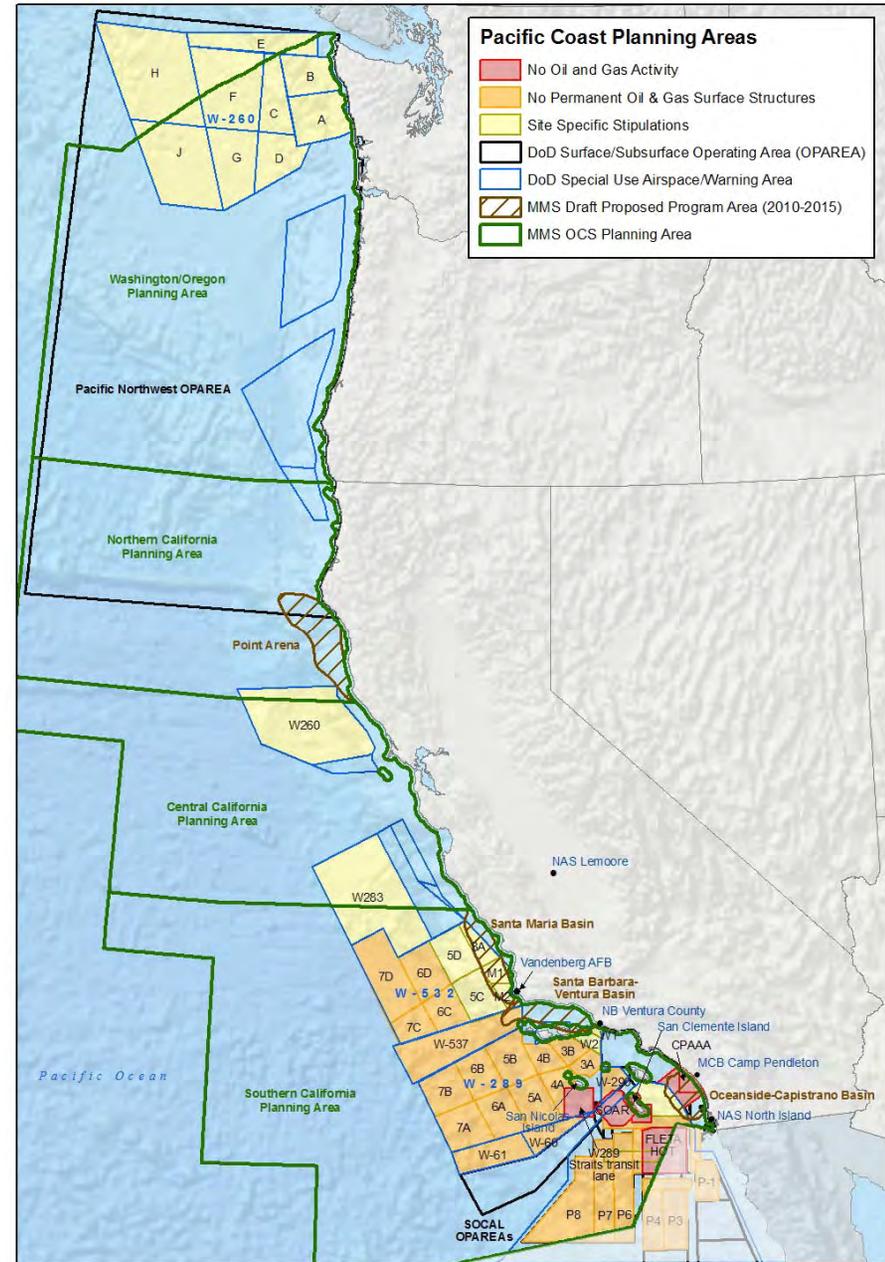
Site Specific Stipulations	2%
Unrestricted	98%

Central California Planning Area

Site Specific Stipulations	16%
Unrestricted	84%

Southern California Planning Area

No Oil and Gas Activity	3%
No Permanent Oil & Gas Surface Structures	27%
Site Specific Stipulations	6%
Unrestricted	64%



Overview: California Coast Program Areas

Santa Maria Basin

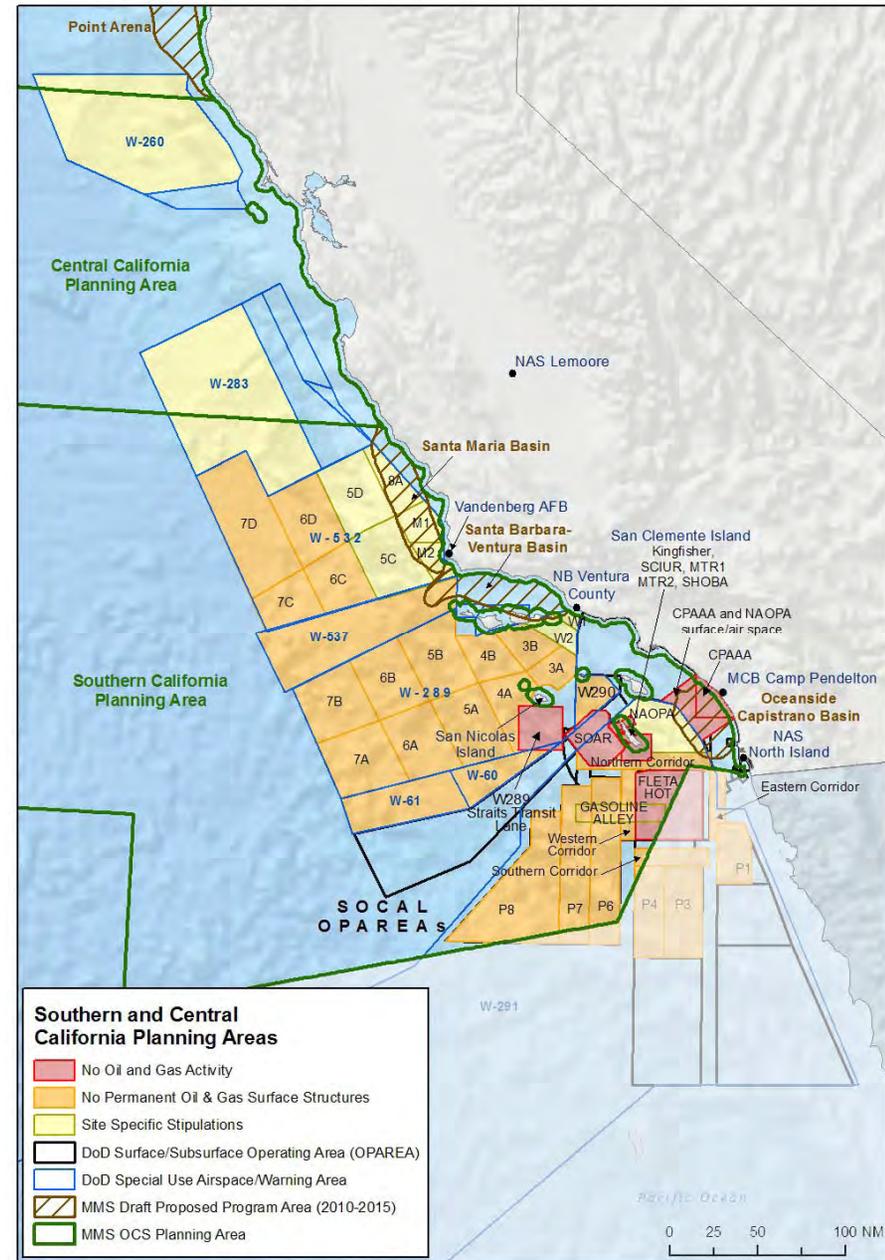
Site Specific Stipulations	75%
Unrestricted	25%

Santa Barbara-Ventura Basin

No Permanent Oil & Gas Surface Structures	16%
Site Specific Stipulations	6%
Unrestricted	78%

Oceanside/Capistrano Basin

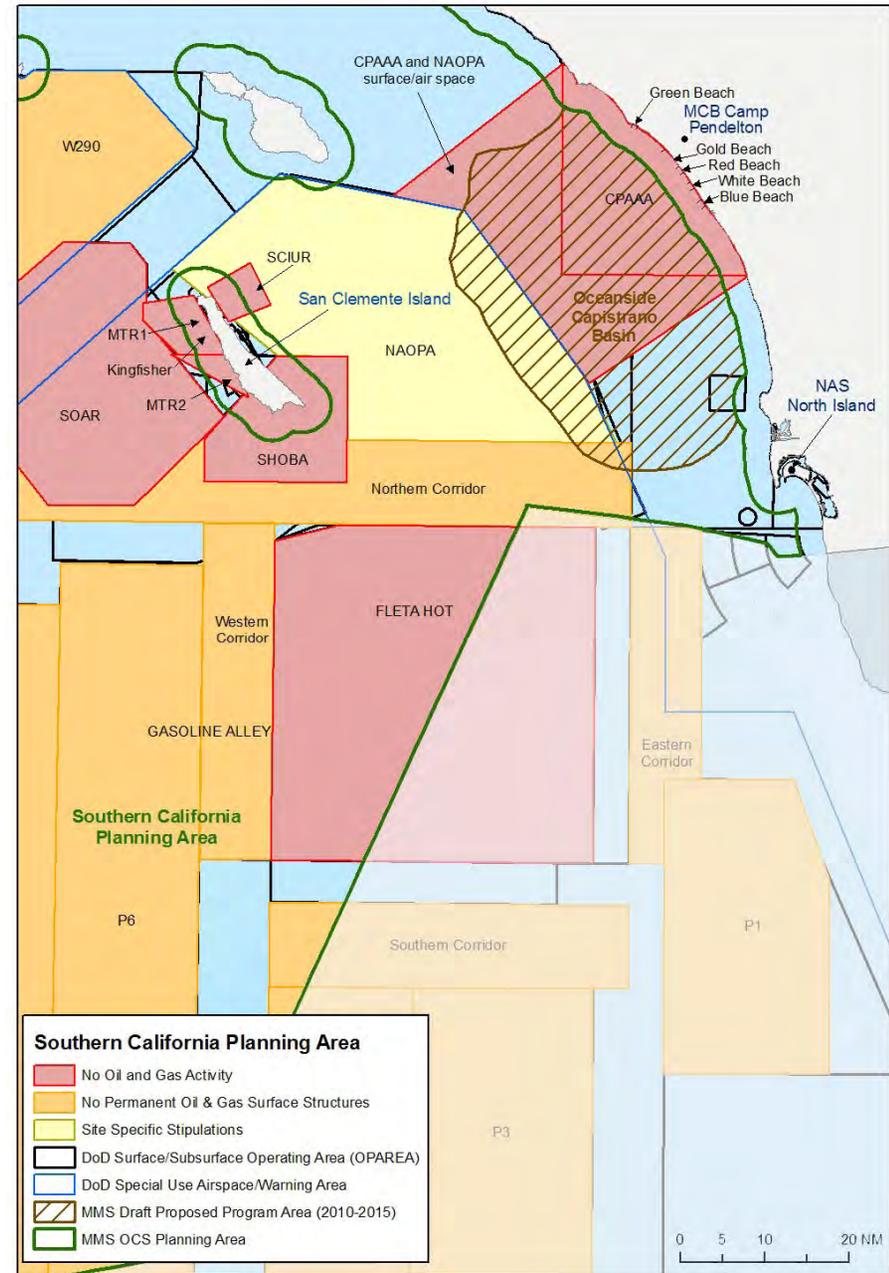
No Oil & Gas Activity	57%
Site Specific Stipulations	19%
Unrestricted	24%



Southern California Program Area

Oceanside/Capistrano Basin

No Oil & Gas Activity	57%
Site Specific Stipulations	19%
Unrestricted	24%



Alaska Planning/Program Areas

Site Specific Stipulations	48%
Unrestricted	52%

